April 3, 1945. H. P. COMPTON ET AL 2,373,014

PACKAGE VENDING MACHINE

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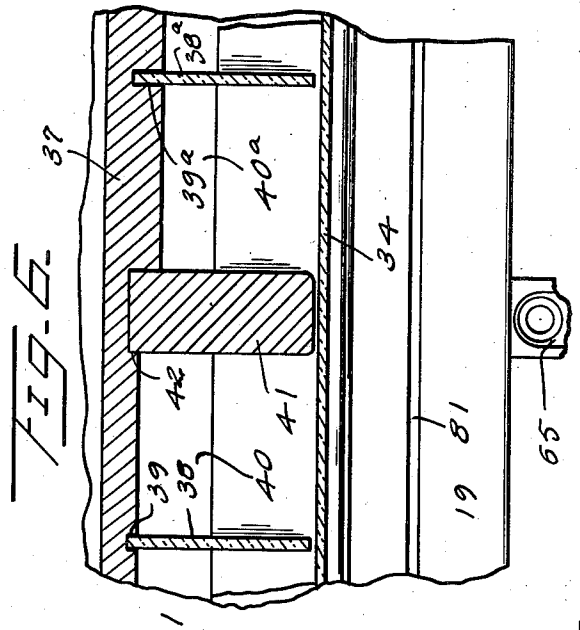


FIG. 6.

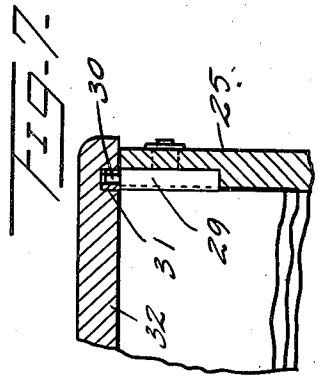


FIG. 7.

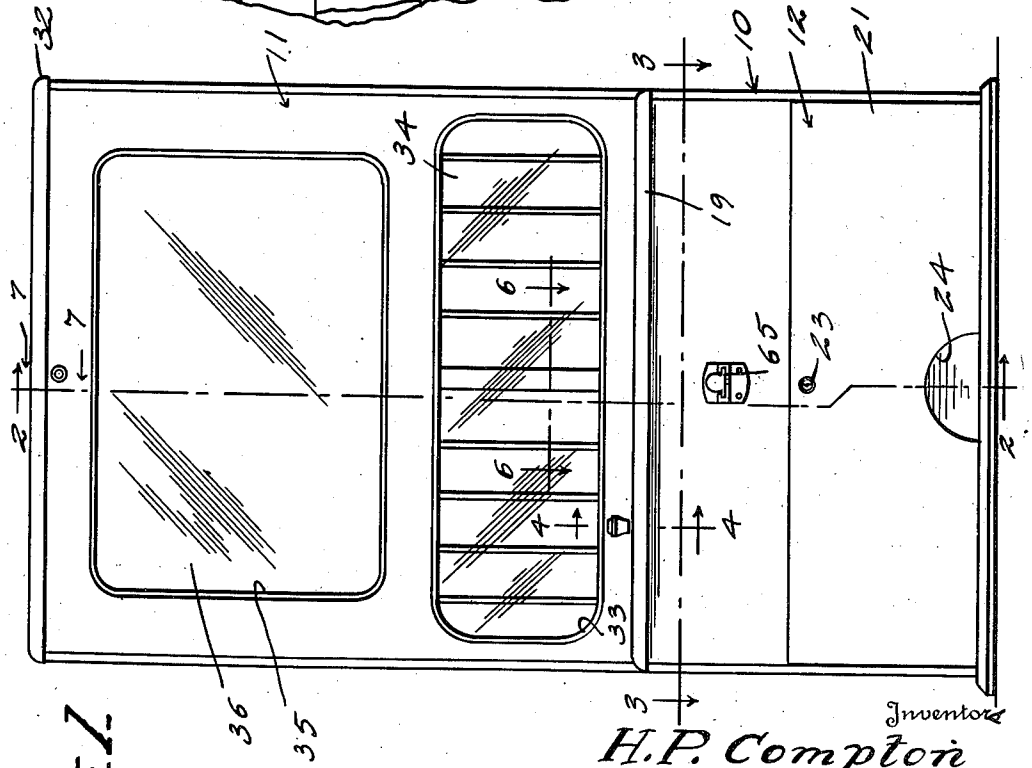


FIG. 1.

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Fig. 2.

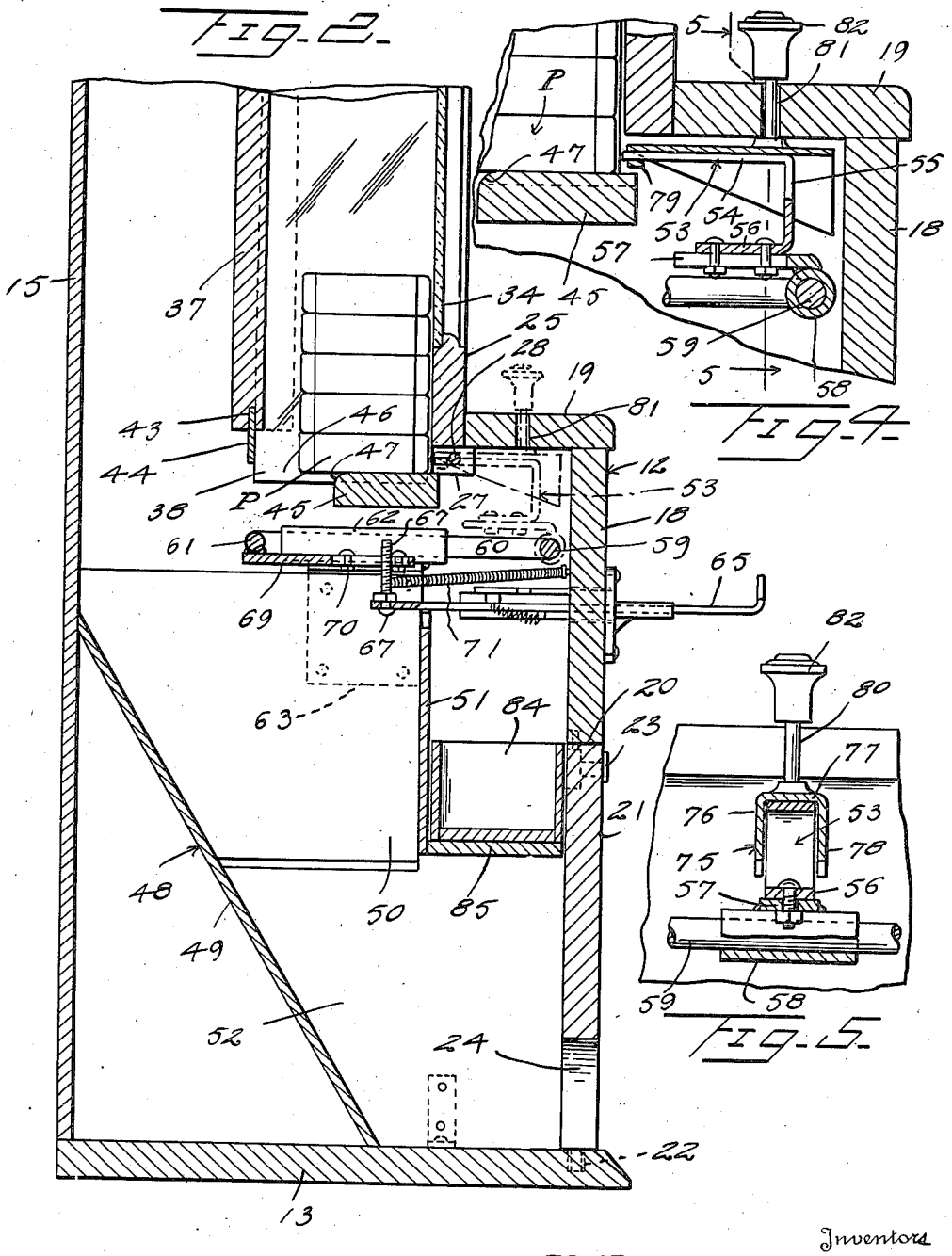


Fig. 4.

Fig. 5.

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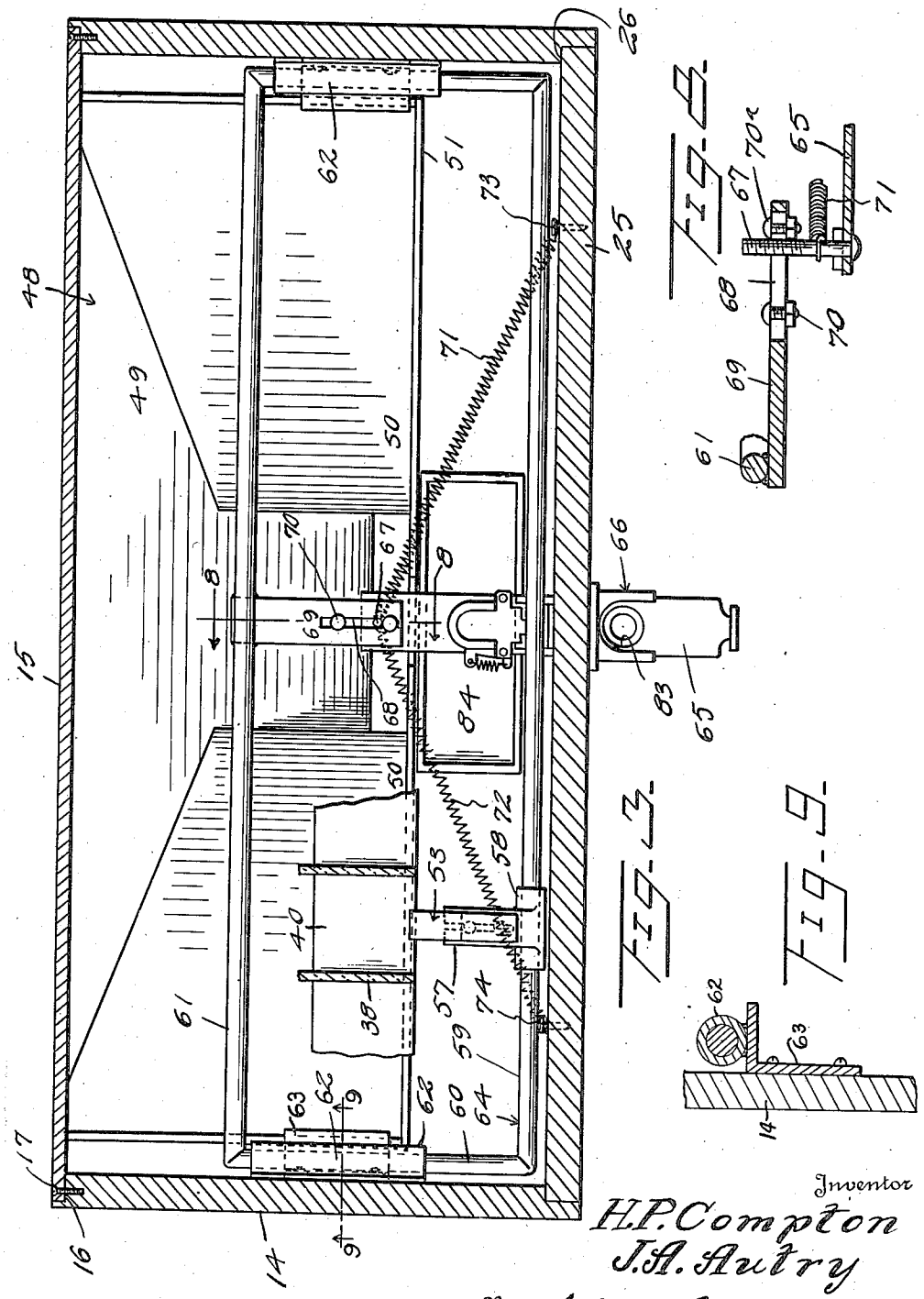


FIG. 4.

FIG. 3.

FIG. 5.

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UNITED STATES PATENT OFFICE

2,373,014

PACKAGE VENDING MACHINE

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Application March 1, 1943, Serial No. 477,616

7 Claims. (Cl. 312—66)

This invention relates to dispensing machines for dispensing packaged articles.

An object of this invention is to provide a dispensing machine which includes a plurality of vertical magazines for holding stacked packages, and means for dispensing packages from a selected magazine.

Another object of this invention is to provide in combination with a coin operated mechanism an improved selector means whereby the purchaser may select the package to be dispensed.

A further object of this invention is to provide an improved operating means for a selective ejector.

A further object of this invention is to provide a dispensing machine which is of simple construction so that it will not readily get out of order and may be produced at relatively small cost.

A further object of this invention is to provide an improved package ejector which is readily adjustable toward or away from the package so as to insure the ejection of the package when the coin controlled mechanism is operated.

A further object of this invention is to provide an improved connection between the coin-controlled mechanism and the ejector mechanism so as to provide the desired lost motion between these mechanisms and prevent operation of the ejector mechanism prior to the insertion of a coin.

To the foregoing objects and to others which may hereinafter appear, the invention consists of the novel construction, combination and arrangement of parts as will be more specifically referred to and illustrated in the accompanying drawings, wherein is shown embodiments of the invention, but it is to be understood that changes, variations and modifications may be resorted to which fall within the scope of the invention as claimed.

In the drawings:

Figure 1 is a detail front elevation of a dispensing device constructed according to an embodiment of this invention,

Figure 2 is a fragmentary vertical section taken on the line 2—2 of Figure 1,

Figure 3 is a sectional view taken on the line 3—3 of Figure 1,

Figure 4 is a fragmentary sectional view taken on the line 4—4 of Figure 1,

Figure 5 is a fragmentary sectional view taken on the line 5—5 of Figure 4,

Figure 6 is a fragmentary sectional view taken on the line 6—6 of Figure 1,

Figure 7 is a fragmentary vertical section taken on the line 7—7 of Figure 1, and

Figure 8 is a fragmentary sectional view taken on the line 8—8 of Figure 3.

Figure 9 is a fragmentary view taken on the line 9—9 of Figure 3.

Referring to the drawings, the numeral 10 designates generally a cabinet which includes an upper body 11 and a base body 12. The cabinet 10 is formed of a base or bottom wall 13, upright side walls 14 and a rear wall 15. The rear wall 15 and the side walls 14 extend throughout the height of the cabinet 10 and the rear wall 15 is secured in a rabbet 16 formed in the rear vertical edges of the side walls 14 by fastening devices 17.

The lower or base member 12 includes a front wall 18 which is secured between the side walls 14, the side walls 14 being extended forwardly so as to offset the base member 12 from the upper or magazine member 11. A top wall 19 is secured to the upper edge of the front wall 12 and the front wall 12 is formed with an opening 20 within which a removable closure 21 is positioned. The closure 21 is provided at its lower edge with downwardly extending dowels 22 engaging in recesses formed in the upper side of the base 13 and a conventional lock 23 is carried by the upper edge of the closure 21 and is adapted to releasably hold the closure 21 in vertical alignment with the front wall 18.

The closure 21 in the center thereof and in the lower edge is formed with a delivery opening 24 through which the dispensed packages are adapted to be withdrawn. The upper member 11 has a removable front wall or closure 25 which is seated in a rabbet 26 formed in the forward edge of the side walls 14 above the wall 19. The closure or removable front wall 25 is adapted to seat at its lower end on supporting blocks 27 which are secured to the inner faces of the side walls 14 by fastening members 28. The lower end of the closure 25 is adapted to engage rearwardly of the rear edge of the top wall 19, as shown in Figure 2, and a lock 29 is carried by the upper portion of the closure 25 and has the locking bolt 30 thereof engageable in a keeper 31 which is formed in the top wall 32.

The closure or removable front wall 25 is provided with a window opening 33 adjacent the lower portion thereof and a panel 34 is mounted in the opening 33. The closure 25 may also be provided with a second opening 35 above the

opening 33 and a mirror 36 may be mounted in the upper opening 35.

An inner vertical wall 37 is secured between the side walls 14 substantially mid-way between the rear wall 15 and the front wall or closure 25. The inner wall 37 constitutes the rear wall of the magazine construction and has the lower edge thereof positioned slightly below the upper side of the top wall 19. A plurality of partitions 38 are secured in vertical grooves 39 formed in the forward side of the inner wall 37 and the partitions 38 divide the space between the inner wall 37 and the forward wall 25 into a plurality of compartments or magazines 40.

A central dividing wall 41 may be mounted in a vertical groove or channel 42 formed in the inner wall 37 so that compartments 40 will be positioned on one side of the dividing partition 41 and additional compartments 40a for receiving suitable packaged articles will be positioned on the opposite side of the dividing wall 41. The compartments or chambers 40a are separated one from another by vertical partitions 38a seated in vertical grooves 39a similar to the partitons 38 and the grooves 39, respectively. In the present instance, the chambers or magazines 40a are not quite as deep as the magazines or chambers 40.

The inner wall 37 at the lower end thereof has secured in a groove 43 formed in the lower end 37 a depending flexible apron 44. The apron 44 is adapted to confront the lowermost package P which is disposed in the magazines, the apron 44 extending entirely across the lower end of the upper member 11. The packages P are adapted to rest on a lower magazine wall 45 which is disposed between the side walls 14 of the cabinet, and the rear edge of the magazine wall 45 is disposed forwardly of the apron 44 and the rear wall 37 thereby defining a delivery opening or channel 46. The bottom wall 45 is formed with a rounded upper rear edge 47 so that the packages may readily gravitatingly drop downwardly through the passage 46 and into the base member 12.

The base member 12 has positioned therein a hopper generally designated as 48. The hopper 48 includes an upwardly and rearwardly inclined rear wall 49, a pair of downwardly and inwardly inclined side walls 50 and a vertical front wall 51. The side walls 50 and the front wall 51 are shorter in length than the rear wall 49 and the packages dropping downwardly from the magazine chambers are adapted to slide downwardly along the side walls 50 or the rear wall 49 and then engage in a lower delivery chamber 52. The articles engaging in the delivery chamber 52 may be removed by extending a hand through the semi-circular opening 24.

The packages P in the several magazines may be selectively removed or ejected from the package chambers by means of an ejector generally designated as 53. The ejector 53 comprises a horizontally disposed ejector arm 54 which has formed integral therewith a downwardly extending vertical arm 55. The ejector 53 is disposed below the top wall 19 and inwardly of the front wall 18. A horizontal or base arm 56 is formed integral with the vertical arm 55 and is secured to a rearwardly extending supporting arm 57. The supporting arm 57 is welded or otherwise fixedly secured to a cylindrical sleeve or slide member 58. The slide member 58 is horizontally slidable on a horizontally disposed guide rod 59. The guide rod 59 has formed integral with the opposite ends thereof rearwardly projecting horizontal arms or extensions 60 and the rear ends of the arms or extensions 60 are connected together by means of a connecting member 61 which is disposed in parallel relation with respect to the guide rod 59. The rearwardly extending arms or extensions 60 are horizontally slidable in sleeves 62 which are secured to the inner sides of the side walls 14 by means of a supporting plate 63. The plate 63 may be welded or otherwise fixed to the guide sleeves 62.

The carrier 64, comprising the rectangular frame structure including the guide rod 59, the right angular and rearwardly extending arm or extension 60, and the connecting member 61 is adapted to be moved rearwardly to a package ejecting position by means of an elongated bar 65. The bar 65 forms part of a coin operated mechanism 66 which is similar to the coin operated mechanism embodied in Patents Nos. 1,908,380, issued May 9, 1933, and 1,908,752, issued may 15, 1933. The bar 65 extends interiorly of the base member 12 and has secured to the inner end thereof an upwardly extending bolt 67. The bolt 67 engages in an elongated slot 68 which is formed in a forwardly extending horizontal bar 69 which is welded or otherwise fixed to the rear horizontal bar 61. A bolt 70 engages through the slot 68 rearwardly of the bolt 69 and forms an adjustable stop for the bolt 67 so that the extent of lost motion between the bolt 67 and the arm or bar 69 may be adjusted to the desired degree. The bar 65 is adapted to be constantly urged forwardly to an inoperative position by means of a pair of springs 71 and 72. The springs 71 and 72 are disposed in rearwardly convergent relation, having their rear ends looped over the bolt 67, and the forward or divergent ends of the springs 71 and 72 are secured to fastening members 73 and 74, respectively.

The ejector 53 is adapted to be horizontally shifted to a position confronting a selected magazine by means of an operator or shifter, generally designated as 75. The shifter 75 includes a U-shaped member 76 which is adapted to engage about the ejector 53 as shown in Figures 4 and 5 and comprises an upper horizontal wall or bight 77 and a pair of vertical walls or legs 78. The vertical walls or legs 78 are of triangular configuration with their larger ends foremost. A horizontally disposed connecting bar 79 is disposed at the rear end of the bight 77 and downwardly offset therefrom and engages loosely beneath the horizontal ejecting arm 54. The operator or shifter member 75 has secured to the upper wall 77 thereof a stem 80 which engages loosely through an elongated slot 81 formed in the top wall 19. A knob or handle 82 is secured at the upper end of the stem 80 and projects above the top wall 19.

The handle or knob 82 is adapted to be horizontally shifted to a position confronting the desired magazine, and when this is done, the ejector 53 will be disposed in a position confronting the lowermost package P of the selected magazine. A coin may then be inserted in the coin recess 83 which is formed in the bar 65, whereupon the bar 65 may be pushed rearwardly. When the bolt 67 strikes the stop bolt 70, the carrier 64 will move with the bar 65 and the ejector 53 will push the lowermost package P of the selected magazine from beneath the stacked pile into the passage 46. The ejected package P will flex the apron 54 and then drop downwardly into the hopper 48

and slide downwardly into the delivery chamber 52. Release of the bar 65 will cause the carrier 64 under the tension of the springs 71 and 72 to be moved forwardly to an inoperative position, and in this position the ejector 53 will be disposed forwardly of the magazine chambers, as shown in Figure 4.

The coins are adapted to drop downwardly into the base member 12 from the coin mechanism 66 into a coin box 84 which is mounted on a horizontal supporting wall 85 disposed between the forward hopper wall 15 and the closure 21. A dispensing apparatus as hereinbefore described will provide a means whereby packaged articles may be dispensed and the purchaser may readily select the desired package by shifting of the selector member 75 to a position confronting the desired magazine which may be viewed through the transparent panel 34.

This device provides for an exceedingly simple dispensing cabinet including a common carrier for the ejector and the latter is slidable horizontally and transversely along the carrier to the desired position for ejecting a selected package. The use of the stop bolt 70 which is rearwardly of the operating bolt 67 permits the desired lost motion with respect to the operating bar 65 and, if desired, a second stop bolt 70*a* may be secured to the bar 69 forwardly of the bolt 67 in order to provide for the proper forward movement of the ejector and carrier under the action of the springs 71 and 72.

It will be understood that the coin mechanism 66 is of such a construction that the bar 65 has relative horizontal movement which is attained without the insertion of a coin in the coin recess 83. The lost motion between the bar 65 and the carrier 64 is provided in order to prevent the operation of the carrier 64 without insertion of a coin in the recess 83, the carrier operation requiring complete rearward movement of the carrier operating bar 65.

What we claim is:

1. A package dispensing means comprising a cabinet, a plurality of vertically disposed package magazines in said cabinet having discharge openings therein, a carrier disposed below said magazines, means slidably mounting said carrier for forward and rearward movement, a laterally movable package ejector slidably carried by said carrier and selectively movable to a position confronting the lowermost package of a selected magazine, means for shifting said ejector to a selected position, and operating means for said carrier.

2. A package dispensing means comprising a cabinet, a plurality of vertically disposed package magazines in said cabinet having discharge openings therein, a carrier disposed in said cabinet, said carrier comprising a front elongated bar, rearwardly extending side bars connected to said front bar, and a rear bar connecting the rear ends of said side bars together, means fixed to said cabinet engaging said side bars supporting said carrier for forward and rearward movement beneath said magazines, an operating member for said carrier, a lost motion connection between said carrier and said operator, and a laterally movable package ejector slidably carried by said front bar.

3. A package dispensing means comprising a cabinet, a plurality of vertically disposed package magazines in said cabinet having discharge openings therein, a carrier disposed in said cabinet, said carrier comprising a front elongated bar, rearwardly extending side bars connected to said front bar, and a rear bar connecting the rear ends of said side bars together, means fixed to said cabinet engaging said side bars supporting said carrier for forward and rearward movement beneath said magazines, an operating member for said carrier, a lost motion connection between said carrier and said operator, a laterally movable package ejector, and means slidably mounting said ejector on said front bar in upwardly offset relation with respect to said front bar.

4. A package dispensing means comprising a cabinet, a plurality of vertically disposed package magazines in said cabinet having discharge openings therein, a carrier disposed in said cabinet, said carrier comprising a front elongated bar, rearwardly extending side bars connected to said front bar, and a rear bar connecting the rear ends of said side bars together, means fixed to said cabinet engaging said side bars supporting said carrier for forward and rearward movement beneath said magazines, an operating member for said carrier, a lost motion connection between said carrier and said operator, a laterally movable package ejector, means slidably mounting said ejector on said front bar in upwardly offset relation with respect to said front bar, an operator for said ejector and means slidably connecting said latter operator with said ejector whereby said ejector may move inwardly of said cabinet on an ejecting cycle without movement of said latter operator.

5. A package dispensing means comprising a cabinet, a plurality of vertically disposed package magazines in said cabinet having discharge openings therein, a carrier disposed in said cabinet, said carrier comprising a front elongated bar, rearwardly extending side bars connected to said front bar, and a rear bar connecting the rear ends of said side bars together, means fixed to said cabinet engaging said side bars supporting said carrier for forward and rearward movement beneath said magazines, an operating member for said carrier, a forwardly extending bar fixed to said rear bar and having an elongated opening therethrough, a carrier operating bar, an upwardly extending member carried by said operating bar and loosely engaging in said opening, a laterally movable package ejector, and means slidably mounting said ejector on said front bar.

6. A package dispensing means comprising a cabinet, a plurality of vertically disposed package magazines in said cabinet having discharge openings therein, a carrier disposed in said cabinet, said carrier comprising a front elongated bar, rearwardly extending side bars connected to said front bar, and a rear bar connecting the rear ends of said side bars together, means fixed to said cabinet engaging said side bars supporting said carrier for forward and rearward movement beneath said magazines, an operating member for said carrier, a forwardly extending bar fixed to said rear bar and having an elongated opening therethrough, a carrier operating bar, an upwardly extending member carried by said operating bar and loosely engaging in said opening, means engaging through said opening and adjustable relative to the length of the latter for regulating the lost motion between said member and said carrier, a laterally movable package ejector, and means slidably mounting said ejector on said front bar.

7. A package dispensing means comprising a cabinet, a plurality of vertically disposed package

magazines in said cabinet having discharge openings therein, a carrier disposed in said cabinet, said carrier comprising a front elongated bar, rearwardly extending side bars connected to said front bar, a rear bar connecting the rear ends of said side bars together, means fixed to said cabinet engaging said side bars supporting said carrier for forward and rearward movement beneath said magazines, an operating member for said carrier, a forwardly extending bar fixed to said rear bar and having an elongated opening therethrough, an upwardly extending member carried by said operating bar and loosely engaging in said opening, means engaging through said opening and adjustable relative to the length of the latter for regulating the lost motion between said member and said carrier, a laterally movable package ejector, means slidably mounting said ejector on said front bar, and an operator for said ejector, said latter operator comprising an inverted U-shaped member encompassing said ejector and between the arms of which said ejector is slidable, and a handle secured to the bight of said latter operator.

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